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Messemaker, M.; Wolbers, J.J.; Treurniet, W.; Boersma, F.K.

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Shaping societal impact: between Control and Cooperation

Manne Messemaker
VU University Amsterdam
m.messemaker@student.vu.nl

Jeroen Wolbers
VU University Amsterdam
j.j.wolbers@vu.nl

Willem Treurniet
TNO
willem.treurniet@tno.nl

Kees Boersma
VU University Amsterdam
f.k.boersma@vu.nl

ABSTRACT

In our modern society, the impact of large-scale safety and security incidents can be large and diverse. Yet, this societal impact is makeable and controllable to a limited extent. At best, the effect of concrete response actions is that the direct damage is somewhat reduced and that the recovery is accelerated. Proper crisis communication can make the biggest difference with respect to overall societal impact. We argue that crisis communication must strike a balance between a directive approach of chaos, command and control and a more empathic approach of continuity, coordination and cooperation. On the basis of a concrete case we analyze how crisis communication reflects the incident response approach and how societal impact is affected.

Keywords

Societal impact, mutual shaping, crisis communication, crisis management.

INTRODUCTION

On Wednesday January 5th 2011 a fire ignites at Chemie-Pack, a company which processes and stores a variety of chemical products, located in Moerdijk, the Netherlands. A big plume of black smoke rises above the fire and drifts over residential areas. The incident is covered on national television and in news bulletins nationwide. During and after the fire societal unrest grows, because it's unknown what kind of chemical substances have burned and what chemical contamination the soot particles may cause. The immediate challenge faced by the disaster response and civil authorities is communicating the threat posed by the chemical fire, while measurements of the risks are still taking place. Additionally, there is uncertainty about responsibilities in the communication to the public. In the Dutch emergency response structure responsibilities for crisis communication are dispersed between specialized emergency services and the mayor's office. Depending on the size and escalation of the response structure responsibilities shift towards the regional governmental authorities (e.g. see: Van de Ven et al, 2008). In the initial phase of this incident the mayor of the municipality of Moerdijk is accountable for crisis communication. In later phases this accountability shifted to the coordinating mayors of the affected safety regions, in consent with the national level.

The Moerdijk case illustrates that during the Crisis and Emergency Risk Communication (Reynolds & Seeger, 2005) emergency response organizations are increasingly confronted with demands in society about more immediate and clear cut communication about the incident response operations and their effects. Disasters like Fukushima and 9/11 have shown us that communicating health concerns towards communities triggers a complex social dynamic. To study this social dynamic community response paradigms with attention to community capacity building (Allen, 2006; Mathbor, 2007) become increasingly important (Ahmed et al, 2012). This is amplified by the notion that citizens can and will inform themselves about the emergency since they are increasingly equipped with tools with high level capabilities, such as mobile phones to share information in open communities on the web. Moreover, a plurality of media from news channels, radio stations, newspapers and internet community scrutinize the actions that occur in the public domain. This causes a social dynamic where emergency response and communities mutually shape the societal impact of crisis communication.

Several strands of communication literature address public messaging in their own particular ways, such as risk communication that has traditionally been associated with health communication and warning the public about risks associated with behaviors; and crisis communication that is associated with public relations and the need to repair one's reputation (Seeger, 2006). While important lessons are drawn, academics claim that crisis

communication literature is dominated by case studies and consequently lacking systematic knowledge and theoretical grounding (Falkheimer & Heide, 2006). As Reynolds & Seeger (2005) show there is a need to integrate theories between crisis and risk communication. We extend their message into the field of emergency management literature, and will argue that communication theories need to be related to the way in which emergency management governs their response operation in relation with communities.

In this article we will analyze this mutual shaping, by studying how the emergency management organizations communicated to society during the large chemical fire in the Dutch municipality of Moerdijk, how the public responded to the response organizations' actions and how this response influenced their information strategies. This interactive approach on communication processes aims to stimulate theory building that connects crisis communication and emergency management literature. Our study builds on the idea that in crisis situations there is a lack of a common vocabulary between citizens and response organizations (Manoj & Baker 2007). The fire in Moerdijk had a big impact in the Dutch society and caused a lot of societal unrest. It was investigated by the official, independent investigation authorities, whose reports revealed a failing communication strategy, poor information management and lack of interaction between the response organizations and society at large.[1] Our contribution to the debate will be an analysis of mutual shaping between the crisis communication and the newspaper response.

Our main question is: How did the communication of emergency response organizations and citizens mutually shaped each other, and how did this affect societal impact?

THEORETICAL APPROACH

The traditional steering logic behind emergency management is based upon the 3C model. This acronym refers to the assumption that disaster causes *'Chaos'*, that needs to be put under *'Control'* by constituting a *'Command'* structure (Quarantelli & Dynes, 1985). These ideas are rooted in the military doctrines that this type of structure is most effective in dealing with threats. Since many emergency response organizations have evolved from the military domain these assumptions are still prevailing as underlying rationale during emergency response operations including their information and communication strategies (e.g. see: Steinberg & Shields, 2008: 22).

In this 3C model the underlying assumptions are also prescribed towards the broader societal impact of disasters. Especially citizens are perceived as 'inconvenient bystanders' that are passive and cannot take care of themselves and their spontaneous actions are seen as irrelevant or even disruptive to the command & control structure (Helsloot & Ruitenberg, 2004). Therefore, these citizens need to be taken care of (or controlled) and need to be informed through official statements of authorities. And as a consequence, response organizations tend to see information-sharing and communication as a one-way and uni-lineair process: from the professionals to the citizens.

The original 3C model has been proven inadequate already by Dynes (1994) who argues that we need to move towards a model that is based upon the assumptions of '*Continuity'*, '*Coordination'* and '*Cooperation'*. In disasters the society doesn't necessarily spiral into social chaos (Helsloot & Ruitenberg, 2004), but may actually be better characterized from the continuation of social and institutional structures, although these structures are under pressure and there is a certain amount of unrest. This unrest cannot be brought under control, but must be *'Coordinated'* by responding emergency response agencies in *'Cooperation'* - through mutual shaping - with existing organizations and groups that have expertise in the affected societal or infrastructural domains. Emergencies do not reduce the full capacity of individuals or social structures. Therefore, using existing social structures and their expertise is the most effective way to solve problems related to emergencies. The creation of artificial structures to control the situation is not possible and even ineffective (Dynes, 1994). The goal is not to prevent chaos from occurring, but the focus must be aimed at solving the problem that the emergency poses.

However, it is still questionable with what logic the response organizations engage in these new relationships. Is this from the perspective of ordering citizens what to do (control) or providing an action perspective for self-organization (cooperation)? We propose that each 3C model exhibits a different kind of logic and as such may also have a distinct language that goes with this logic (Manoj & Baker, 2007). As Reynolds & Seeger (2005) describe crisis communication during the initial event and maintenance phase consists of explanation of the situation through: ongoing reassurance, uncertainty reduction, reiteration of the message and support of self-efficacy. We will use these communication aspects as the starting point to work towards a comparison of the paradigmatic languages used in the two 3C models.

[1] http://www.ivenj.nl/actueel/inspectierapporten/rapport-brand-chemie-pack-moerdijk.aspx

METHOD

Newspaper articles were used to analyze the societal impact and public unrest in the weeks after the incident. The articles were retrieved from the LexisNexis database using search string "Chemie-Pack OR Moerdijk" from January 5th 2011 to April 1st 2011. Additional analysis showed that the news reports on the actual response appeared until January 26th, which was taken as the end point. The four largest Dutch national newspapers were included in our analysis covering the mainstream daily printed media. Joint press releases from both affected safety regions were used to analyze the crisis communication from the crisis organization. These were retrieved from the website of safety region Zuid-Holland Zuid and the websites of the municipalities of Moerdijk, Dordrecht and Breda. A content analysis was carried out to analyze message contents and media responses to the crisis communication with the help of the tool MaxQDA. We followed the logic of grounded theory (Corbin & Strauss, 2008) in which codes were assigned to the data that resulted in the emergence of different themes and topics that categorized the symbolic representations (Strauss, 1993) used by both emergency response organizations and the media. Topics included uncertainty about toxic substances, exposure to toxic substances, and also a typology of different action perspectives that emergency response organizations communicated. We strived for inter-coder reliability by discussing the nature of the categorizations in collaborative meetings. The assigned codes were used as a guide to systematically assess the use of language in the data. Several recurring characteristics emerged from the data as presented in the next section that reflect our inferences about the use of a specific paradigmatic language by the emergency response organizations.

FINDINGS

Our analysis shows that in the Chemie-Pack case the crisis organization followed a classic command & control approach in their communication to the public. The focus of the crisis organization was on providing information about technical obstacles and solutions to the public health risks, a fact-based approach requiring complete certainty and precision. At the same time however, citizens expected to be informed in a timely fashion and with consideration to the perceived impact and unrest caused by the incident. Some communication characteristics of the deterministic command and control approach seem to have contributed to the societal impact in the weeks after the incident.

The days immediately after the incident

In the wake of the incident a vibe of untrustworthiness emerged within society partly due to the rather technical messages from the crisis organization, setting the tone for the interactions in the days to follow. This became visible by public debates and newspapers articles that ventilated skepticism about the information released by the crisis organization, disbelieving the notion that such a large fire at a chemical company would not have any harmful health effects (De Telegraaf, January 6; Algemeen Dagblad, January 6; De Telegraaf, January 7; Algemeen Dagblad, January 8). Based on preliminary measurement results collective press conferences of all involved response organizations were organized that explained the "damage to the health of the citizens remained limited" and that "there are no hazardous substances measured *to the extent* that they endanger public health" (emphasis by authors) (Press release Mayor of Breda, January 6; Press release Mayor of Moerdijk, January 6). At the same time however there was still a pending investigation into the soot particles from the smoke cloud and uncertainty about the specific burned substances. The ongoing investigations and the rather technical communication added a contradictory element to the messages, made worse once the media simplified it to "no hazardous substances were released" (Algemeen Dagblad, January 6). Two days after the fire a leaked third party report surfaced in the media stating that ditches around the incident area were contaminated with carcinogens fueling mistrust within society and the media and questioning the reassuring messages of the authorities.

The weeks following

Seemingly lacking a feedback loop to gauge the sentiments within society a tension emerged between the view outlined by the crisis organization on the one hand, and within society on the other. While citizens became increasingly distrustful in the days after the incident, the crisis organization kept communicating from a command and control logic. Precision and certainty of measurements continued to be central themes in the communication, as previous reassuring messages were repeated with terms like "precise and reliable", "clear" and "accurate information" (Press release RBT Midden-West Brabant, January 10; Press release Midden-West Brabant and Zuid-Holland Zuid, January 10; Press release Mayor of Breda, January 11). However, reliable and accurate analysis costs time in which the media and citizens had an opportunity to develop their own more disturbing view of the incident, as uncertainty about the burned chemical substances and dozens of health complaints from workers and residents emerged in the newspapers. Some experts in the media came across with

more dangerous risk assessments warning for a cocktail of dangerous substances and a totally unpredictable toxic mix (Algemeen Dagblad, January 8; Algemeen Dagblad, January 10). To citizens it became unclear if they could safely continue their daily routine. Instead of coordinating the risk perception that emerged from within society, the crisis response organization tried to control the risk perception by emphasizing their own opposing and more technical view of the incident. The generally contradictory messages supporting this technical view, neglecting the perceived risk by the public, contributed to the unrest within society and the distrust against authorities. In other words, the communication seems to have originated from an incident-based, uni-lineair perspective without giving room for a societal-based perspective.

The communication continued to focus on facts and validation, unrest within society could be eliminated when "clear and accurate information about the measurement results" would be available (Press release safety region Midden-West Brabant, January 14th), neglecting possible messages for self-organization encouraging general knowledge and common sense that any type of smoke and soot particles are dangerous to peoples' health. So instead of triggering common sense, responsibility and resilience within society as well, citizens were made fully dependent on the specific action perspectives in the crisis communication. This suggests that the crisis organization thought they had substantial control over the incident and the speed in which the contamination could be analyzed, which in reality was not the case. Eventually all restrictions in the areas surrounding Moerdijk were lifted between January 19 and January 25. No serious health issues were caused by the soot particles in neighboring residential areas or farmlands.

In the Chemie-Pack case the technically oriented communication was at odds with the gut feelings of the public, the chemical nature of the burning substances, the contaminated ditches, as well as with an utterance of a first responder during the fire. Within the context of empowered citizens and a diverse (social) media landscape, the technical and generally contradictory messages neglecting the view as perceived by the public contributed to more unrest within society and bigger distrust against the authorities. Solely relying on a command & control model increased the discrepancy between the perspectives of the citizens and the crisis organization. Although technical information is essential for the crisis response organization in order to cope with the situation, especially considering the environmental- and health risks of a possible contamination within an urban society, communicating without regard for the perspective of affected citizens seems to have had a negative effect on the societal impact. We question if a more considerate and emotional response based upon cooperation, taking into consideration the perspective of citizens, better connects to the social dynamic and helps to shape the societal impact.

DISCUSSION

Our main question was: How did the communication of emergency response organizations and citizens mutually shaped each other, and how did this affect societal impact? In answering this question we studied the fire incident that took place on January 5th of 2011 in Moerdijk, the Netherlands. We analyzed the crisis communication during the fire incident that took place on January 5th of 2011, as well as the communication during the aftercare, including the effects on the societal impact of the incident. In this discussion of the findings we build on seven communication aspects: type of language, reassurance, uncertainty reduction, reiteration, explanation, self-efficacy and direction (Reynolds & Seeger, 2005). Using these aspects, the table below typifies the types communication for both 3C approaches.

Communication Aspects	Chaos, Command & Control	Continuity, Coordination, Cooperation
Type of language	Technical, juridical	Emotional, empathic
Reassurance	Facts, observations and validation status	Considerations and motives
Uncertainty reduction	Complete	Incremental
Reiteration	Lingering	Current, up-to-date
Explanation	Precise	Best possible estimation
Self-efficacy	Control	Problem solving
Direction	Uni-lineair	Mutual shaping

Table 1. Types of communication in crisis approaches

Looking at the Moerdijk incident, the crisis management organization tends towards the chaos, command & control approach. The *type of language* is rather technical and the communication themes are primarily factual and focused on when and how to gain more certainty and specificity. The citizens are *reassured* by stating facts and only communicating validated information that leads to a full *uncertainty reduction*. The choice to communicate only a validated and *precise explanation* of the situation made the *reiteration* of the message

rather slow. This *lingering* actually resulted in an increased uncertainty by the citizens that requested up-to-date information about the possible dangers. The *self-efficacy* of the citizens was not supported immediately because of the need for control. The consequence of using the chaos, command and control approach seems to be that citizens distrust the emergency response communication and keep uncertain about the threats posed by the fire.

Our analysis shows that the communication model as a consequence of the mutual shaping becomes a hybrid. That means that the two types of communication are used simultaneously and indiscriminately, so the question becomes: what consequences does the choice for a specific 3C model by the emergency response organizations have for the dynamics of mutual shaping? Would the conscious choice for the continuity, coordination and cooperation model, that provides a more inclusive approach, strike a more balanced shaping between emergency response and citizen experience?

As the next step in our research we will work towards a comparative case analysis and analyze an incident that seems to be approached from an attitude of continuity, coordination and cooperation: the Alphen aan den Rijn mall-shooting (April 9th, 2011). The shooting lasted less than ten minutes and resulted in 18 wounded and six fatalities (including the perpetrator). The moment the crisis response was initiated, the shooting was over already. Consequently, crisis communication was the primary response measure. Evaluations show that this crisis communication and aftercare were done emphatically. This incident will be analyzed as well to find out whether the attitude of continuity, coordination and cooperation can indeed be recognized in the crisis communication utterings and how this affects the mutual shaping of societal impact.

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